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SUBJECT: DROUGHT SAPS KRG DAM LEVELS, POWER GENERATION

This is an RRT Erbil reporting cable.

11. (SBU) Summary: Site visits in May and June by RRTOff to the Kurdistan Region's Dokan and Darbandikhan hydroelectric dams in Sulaimaniyah governorate revealed facilities severely limited by drought and producing at near-minimal capacity. Officials at Dokan, a large and well-maintained facility, indicated that the only challenge they faced was a lack of rain; while their counterparts at Darbandikhan, a more modest facility by comparison, admitted they were operating with no spare parts on hand and could not maintain the facility effectively. Severe drought has reduced water levels between ten and 20 meters, forcing the facilities to reduce power generation to half of normal levels. Despite the low water levels, both dams are continuing to provide electricity to the national grid. Both dams are taking advantage of a \$40M World Bank soft loan to fund Milan-based ELC Electroconsult, S.p.A. to assess the condition of both lakes, sediment build-up in the dams, and land erosion. The KRG's inability or reluctance to release water for irrigation and municipal water supply needs is causing problems for provinces south of the dams. The KRG faces fierce competition between the demands to provide water and electricity, and the Kurds argue that they are not receiving ample electricity from the national grid. Different perceptions of the issue suggest that better communication between the relevant national and KRG ministries is necessary to overcome the impasse. End summary.

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Dokan Down Ten Meters; One Turbine Operating  
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12. (SBU) During a May site visit to the Dokan Hydroelectric Facility, dam officials discussed obstacles confronting the facility's ability to generate power. The concrete dam, built for irrigation in 1959 with Soviet assistance, is situated on the southern end of man-made Lake Dokan and was fitted with five turbines in 1976-80. Each turbine is capable of producing 80MW, with total production capacity of 400MW/hour. The dam's water capacity is 6.8bn cubic meters, but with a 300mm shortfall in rain this year (one-third of 2007 levels), the hold on May 11 was only 2.374bn cubic meters. Dam officials indicated that when levels fall below 1.3bn cubic meters the facility cannot generate any power. The drought had forced the dam to operate only one turbine, producing 60-65MW per hour, about half the average production seen in June 2007. Dokan is connected to the national grid at Tasluja, about 20km west of Sulaimaniyah.

13. (U) Both Dokan and Darbandikhan are being assessed by Milan-based ELC Electroconsult, S.p.A. A \$40M soft loan from the World Bank has funded the Italian firm to check the condition of the lakes and dams and to assess the sediment build-up in each as well as land erosion.

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Darbandikhan Twenty Meters Down; Operating at One-sixth Capacity  
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14. (SBU) Equally beset by the drought, the smaller earthen dam at Darbandikhan, near the border with Diyala, faced shortfalls in water levels of 20 meters in its man-made lake that is fed by the Sirwan river (Diyala). The capacity of the lake is 3bn cubic meters, with three turbines producing 83MW (total capacity 249MW/hour) when water levels are adequate. The lake's volume was at 1.57bn cubic meters as of mid-June. With water levels almost half of where they should be for the year, Darbandikhan was running two turbines for ten hours per day and was able to produce 55MW per unit, per hour, (total current production 110MW/hour - less than half the facility's capacity). Total production over a 24-hour period on June 17 was 1107MWH. The dam would not be able to produce power if water levels were to fall another 20m (down to 445m above sea level). Officials at Darbandikhan estimated that reduced water levels due to the drought combined with half a billion cubic meters lost to sediment meant the dam was actually functioning around one-sixth of its capacity.

15. (U) Also originally built for irrigation, Darbandikhan had three turbines built and installed by Mitsubishi, with separate assistance from UK, U.S., and Yugoslav companies, between 1951 and 1962. After a power station study was completed in 1979, construction began on the power station portion of the dam, reaching completion in 1982. During the Iran-Iraq war, the area was shelled heavily, and Iran targeted the facility's transmission lines. The Iraqi government sealed the turbine sets and kept Darbandikhan separate from the national grid. After 1991, the Kurdistan Regional administration installed two 132-kV transmission lines to Sulaimaniyah and one 132-kV line to Kalar and Kifri to link up to the national grid. An explosion in 1991 destroyed two of the three turbines and both were repaired in 1994 and 1997 by exhausting all the facility's supply of

BAGHDAD 00002342 002 OF 002

spare parts. During the first Gulf War, Mitsubishi was unwilling to maintain the turbines, citing existing unpaid debts, and the dam has been struggling to obtain spare parts for maintenance and repair ever since. Darbandikhan's life span was expected to be 150 years; the facility just celebrated its 50th anniversary.

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KRG Controlling Generation and Flow in Face of Drought  
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16. (U) The Sulaimaniyah Directorate of Electricity confirmed to RRT Erbil on July 1 that, despite the drought and low water levels, both Dokan and Darbandikhan are feeding electricity into the national grid at a rate of 50MW/hour from Darbandikhan and 60MW/hour from Dokan. The Kurdistan Region of Iraq also draws from the national grid. Persistent drought, however, may cause water levels to fall further and threaten the dams' ability to generate even minimal power. The Kurdistan Regional Government (KRG) is controlling power generation and water flow to conserve energy in the face of severe water shortfalls as it deploys a region-wide plan to address the drought.

17. (SBU) The drought has also affected downstream consumers who are desperate for more water from Darbandikhan. In April, RRT Erbil, PRT Diyala, and MND-N organized a meeting in Erbil between the governor of Diyala and KRG Deputy PM Omar Fatah to discuss releasing additional water from Darbandikhan. The meeting resulted in KRG agreement to increase the flow 50 cubic meters/second, with promises to revisit the issue. Additionally, MND-N and PRT Kirkuk have worked to inform local farmers of the severity of the water situation in the dams to lessen accusations of Kurds withholding water from Arabs.

18. (SBU) Comment: Dokan and Darbandikhan Dams are overseen by the KRG Ministry of Water Resources, but the dams are supposed to be operated, and water released, according to a national water plan developed by the Iraq Ministry of Water Resources in Baghdad. The actual releases from these two dams for this summer season, as well as the previous two growing seasons have not been in accordance with the national water release plan, (which stipulates that water releases should be determined by downstream irrigation and municipal water supply needs -- the top priority for water use in Iraq).

Power generation from dams in Iraq has always been a byproduct of meeting irrigation and municipal water demands. The inability of the KRG to adhere to the national water release plan has caused considerable problems downstream with respect to water supply and is expected to lead to serious water crises later this year in parts of Iraq. We understand that the Iraq MoWR indicated it has been in continuous contact with the KRG MoWR over its failure to release water according to the national plan, and the Minister has briefed the Parliament on the situation.

19. (SBU) Comment (cont'd): There is fierce competition in the KRG between competing demands for water and electricity. In response to criticism they are not releasing water at the correct rate to the south, KRG officials argue they are not getting from the south the share of electricity from the national grid they are owed. In any case, the disconnect between the provisions of the national water plan and the levels that the KRG MoWR is releasing suggests that communication and agreement between the two ministries needs to be improved. RRT will continue engagement with KRG MoWR to resolve the issue.

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